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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

ALANKO, ANITA KAREN

ART UNIT

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/532,538	Applicant(s) SAITO ET AL.	
	Examiner Anita K. Alanko	Art Unit 1792	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 December 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) 13-17 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

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DETAILED ACTION

Specification

The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required: the specification fails to have explicit basis for the new limitations in claims 1, 7 and 10 of "ridge-shaped" projections. Applicant notes that basis exists at page 1, lines 32-33 and Fig.1, however, page 1 describes the prior art, not the instant invention, and Figure 1 does not depict any "ridges."

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ikeda et al (US 6,553,788 B1) in view of Fujimura et al (US 6,668,587 B2).

Ikeda discloses a method comprising:

forming a surface layer ("alteration layer", col.4, lines 7-12, "Process B" - col.8, lines 44-48) on a surface of a disk-shaped glass plate (col.8, line 36) having a predetermined composition (plate composition) and a predetermined chemical resistance (plate chemical resistance), with the surface layer having a composition (surface layer composition) differing from the plate composition (inherent in the alteration layer since the surface has been etched, col.3, lines 9-16)

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and a chemical resistance (surface layer chemical resistance) that is lower than the plate chemical resistance (inherent since the surface has been etched, and there is simultaneous removal and formation of a non-uniform surface layer, col.4, lines 8-12);

scrubbing (“Process D” col.8, line 58, col.7, lines 51-55) the surface with a scrub member (pad is expected to be the same as in the second embodiment, col.12, lines 22-57, Fig.3A-4D) to form a texture including a number of projections (a “fine texture”, col.7, line 53) extending in a circumferential direction (inherent since scrubbing is the same process as the instant invention, i.e., rotation of a disk-shaped glass plate and scrubbing with a pad that has a length corresponding to the width of the plate, textures are expected to be formed in a circumferential direction, see for example Fig.3A-3C); and

selectively removing an upper portion of the surface layer that is part of the plurality of projections with an etching liquid (alkaline etching liquid, col.8, lines 59-61).

Ikeda fails to disclose that the scrubbing includes an abrasive. Fujimura teaches that after the usual magnetic disk processing steps (Ikeda discloses magnetic disk processing steps), (col.4, lines 14-24), that it is useful to improve cleaning by including an abrasive in the scrub-cleaning process (col.4, line 66-col.5, line 7). Therefore, it would have been obvious to one with ordinary skill in the art to include an abrasive in the scrubbing process of Ikeda because Fujimura teaches that it improves the cleaning effect of scrubbing.

As to the selective removal of the upper portion, this is inherent in the modified method of Ikeda because the same steps are conducted as in the instant invention. Thus although Ikeda may not recognize that the alkaline etching removes an upper surface portion, it is expected to

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inherently remove the upper portion since the alkaline etching step follows the surface layer formation and scrubbing steps.

As to amended claim 1, the modified method of Ikeda is expected to produce “ridge-shaped” projections each extending in a circumferential direction because scrubbing with an abrasive is conducted in a circumferential manner, and since the same method is conducted as in the instant invention, the same results are expected.

As to claim 2, Ikeda discloses an alkaline etching liquid (col.8, lines 59-61).

As to claim 3, Ikeda discloses a glass substrate (col.5, lines 19-59) and said forming a surface layer includes decreasing the ingredient ratio of at least one component (col.5, lines 32-34) excluding silicon oxide so that the ingredient ratio of silicon oxide in the surface layer is greater than that in a portion excluding the surface layer (inherently by the hydrofluoric acid etching process).

As to claim 4, Ikeda discloses aluminum oxide and alkaline earth metal oxides (col.5, lines 43-50).

As to claim 5, since Ikeda has the same steps as the instant invention, the surface layer is expected to have at least a similar thickness as that cited. Still further, Ikeda recognizes that an alteration layer is formed and removed (col.4, lines 7-12) and that etching conditions should be modified to achieve the desired surface profiles (texture roughness, col.4, lines 13-63). Since the two depend on each other (alteration layer formation/removal and texture roughness), the surface layer thickness is a result-effective variable. It would have been obvious to one with ordinary skill in the art to vary the surface layer thickness to that cited because the surface layer thickness appears to reflect a result-effective variable which can be optimized. See MPEP 2144.05 IIB.

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As to claim 6, Ikeda discloses to immerse the glass plate in a strong acid solution (col.8, lines 44-48). However a different embodiment suggests to use a pH of less than three (col.13 lines 50-54) and that the pH is a result effective variable since solubility of elements of glass increases (col.13, lines 53-54). It would have been obvious to one with ordinary skill in the art to vary the pH to that cited because the pH appears to reflect a result-effective variable which can be optimized. See MPEP 2144.05 IIB.

Further as to claim 6, Ikeda discloses that the alkaline solution has a pH of 11 (col.8, line 60), which is within the cited range.

As to claim 7, forming said texture as cited is inherent in the modified method of Ikeda because the same steps are conducted as in the instant invention. Thus although Ikeda may not recognize that the scrubbing reaches a lower layer, it is expected to do so since the scrubbing follows surface layer formation.

As to claim 8, see the rejection of claims 1-6, which have surface layer formation, immersing, dissolving of alkaline earth metal oxides, immersing in strong alkaline solution and etching as a result effective variable to optimize for best results (surface roughness).

As to claim 9, forming said ingredient ratio as cited is inherent in the modified method of Ikeda because the same steps are conducted as in the instant invention. Thus although Ikeda may not recognize the ingredient ratio as cited, it is expected to be at least similar since the same glass (an aluminosilicate) is processed as in the instant invention.

As to claim 10, see the rejection of claim 1. Further, Ikeda discloses polishing the glass plate to form a smooth surface ("Process A," col.8, lines 40-43). Flat upper surfaces are inherent since the same method steps are conducted as in the instant invention.

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As to claim 11, see the rejection of claim 1.

As to claim 12, a second thickness less than a first thickness is inherent since the same method steps are conducted and the same final product appears to result (average surface roughness of 1.1 nm, and asperity of about 10, Table 1, Ex.1.)

Terminal Disclaimer

The terminal disclaimer filed on 12/16/08 disclaiming the terminal portion of any patent granted on this application which would extend beyond the expiration date of 10/532564 has been reviewed and is accepted. The terminal disclaimer has been recorded.

Response to Amendment

The 35 USC 112, second paragraph rejection is withdrawn since it is clear that scrubbing in a circumferential manner produces projections in a circumferential direction.

The double patenting rejection is withdrawn since the terminal disclaimer has been submitted and is proper.

The specification lacks explicit basis for the new claim terminology of “ridge-shaped” projections.

The claims remain rejected under 35 U.S.C. 103(a) as being unpatentable over Ikeda et al (US 6,553,788 B1) in view of Fujimura et al (US 6,668,587 B2).

Response to Arguments

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Applicant's arguments filed 12/16/08 have been fully considered but they are not persuasive.

Applicant argues that the scrub-cleaning of Ikeda is for removing alteration layer different from the bulk layer, but not for forming a texture. In response, examiner disagrees. If an alteration layer is removed, then some sort of texture is inherently formed by that scrubbing process. Since the modified method of Ikeda includes an abrasive, as in the instant invention, ridge-shaped projections are expected to be inherently formed (see rejection above).

Applicant argues that Fujimura is for removing needle-like projections consisting of carbonates of alkali metals. In response, removing projections is also a texturing process, and examiner repeats the arguments from above that since the modified method of Ikeda includes an abrasive, as in the instant invention, ridge-shaped projections are expected to be inherently formed.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37

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CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anita K. Alanko whose telephone number is 571-272-1458. The examiner can normally be reached on Mon-Fri until 3:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nadine Norton can be reached on 571-272-1465. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Anita K Alanko/
Primary Examiner, Art Unit 1792